



APPENDIX

Changes to Specification:**Page 5, lines 13-23:**

Therefore, in the conventional method, the production efficiency is low and the purities of the nanotubes and the fullerenes contained in the acquired soot are low, which is disadvantageous. Especially, in order to efficiently produce the nanotubes expected as a material to achieve an electronic switching element having a dimension within some nanometers, it is required to implement an industrial manufacturing method that allows production of high-purity nanotubes in large quantities, and a manufacturing apparatus for the same. Journet C., et al., "Large-scale production of single-walled carbon nanotubes by the electric-arc technique," *Nature Nature*, Vol. 338, p756-21 August 1997 (Aug. 21, 1997),- p756, in the Large-scale production of single-walled carbon nanotubes by the electric-arc technique, discloses that carbon in mass of total two grams is attained in two minutes of synthesizing time, in a large-scale synthesis technique of single walled carbon nanotubes.

Page 7, lines 15-22:

Preferably, the vacuum chamber 10 is made of a metal such as a stainless. In the vacuum chamber 10 are installed a rotary pump 14 that reduces the pressure inside the system and a pressure ~~gag~~-gauge (not illustrated) for measuring the pressure inside the system. The electrodes 11a and 11b installed inside the vacuum chamber 10 are connected to a power supply 18 to apply a DC or AC voltage. The electrodes 11a and 11b are disposed to face each other on the right and left in the drawing. The layout of the electrodes is not limited to this as long as stable creation of the discharge plasma is ensured.

Page 14, line 26 to page 15, line 4:

The result collected the carbon material deposited on the inner face of the vacuum chamber 10 in the production under the above condition, and extracted the fullerenes from

the collected carbon material by using benzene. The experiment was carried out to vary the pressure inside the vacuum chamber 10 within 1.3 kPa to 93.1 kPa, and confirmed to produce the nanotubes and fullerenes under any pressure of the range.

Changes to Claims:

The following is a marked-up version of the amended claim(s):

1. (Amended) A method of manufacturing single-walled carbon nanotubes and/or fullerenes comprising the steps of:

 _____ reducing the pressure inside a system to 1.3 Pa or lower;

 _____ supplying a carboniferous liquid state material comprising a metallic catalyst to raise the pressure inside the system to at least 1.3 kPa to ~~93.3 kPa~~;

 _____ generating arc discharges;

 _____ supplying the carboniferous liquid state material in discharge plasma created by the arc discharges; and

 _____ disintegrating or exciting the carboniferous liquid state material to produce the single-walled carbon nanotubes and/or the fullerenes.
2. (Amended) A method of manufacturing single-walled carbon nanotubes and/or fullerenes according to Claim 1, wherein the carboniferous liquid state material is an organic solvent.
3. (Amended) A method of manufacturing single-walled carbon nanotubes and/or fullerenes according to Claim 1, wherein the carboniferous liquid state material is any of a petroleum liquid, mineral oil, and fatty acid ester.
4. (Amended) An apparatus that manufactures single-walled carbon nanotubes and/or fullerenes, comprising:

_____ at least a pair of electrodes that generate arc discharges into a vacuum chamber to create discharge plasma, wherein at least one electrode of the pair of electrodes comprises carbon and catalytic particles;

_____ a gas supply unit that supplies a carrier gas into the vacuum chamber; ~~and~~
_____ a raw material supply unit that supplies a carboniferous liquid state material in the discharge plasma through an introduction tube; and

a heater that heats the carboniferous liquid state material.

5. (Amended) An apparatus that manufactures single-walled carbon nanotubes ~~and/or fullerenes~~ according to Claim 4, wherein the raw material supply unit is capable of supplying a mist of the carboniferous liquid state material.

6. (Amended) An apparatus that manufactures single-walled carbon nanotubes ~~and/or fullerenes~~ according to Claim 4, further comprising a gap adjustment unit capable of adjusting a distance between the pair of the electrodes.

7. (Amended) An apparatus that manufactures single-walled carbon nanotubes ~~and/or fullerenes~~ according to Claim 4, further comprising a cooling unit capable of cooling at least one of the pair of the electrodes.

Claims 8-14 are added.

8. (New) A method of manufacturing single-walled carbon nanotubes according to claim 1, wherein the metallic catalyst is iron, nickel and/or yttrium.

9. (New) A method of manufacturing single-walled carbon nanotubes according to claim 1, wherein the metallic catalyst is yttrium.

10. (New) A method of manufacturing single-walled carbon nanotubes according to claim 1, wherein the pressure inside the system is raised to at least 39.9 kPa.

11. (New) A method of manufacturing single-walled carbon nanotubes according to claim 1, wherein the pressure inside the system is raised to a range of 39.9 kPa to 79.8 kPa.

12. (New) An apparatus that manufactures single-walled carbon nanotubes according to Claim 4, wherein the catalytic particles are nickel, yttrium, and/or carbon particles.

13. (New) An apparatus that manufactures single-walled carbon nanotubes according to Claim 4, wherein the catalytic particles is yttrium.

14. (New) A method of manufacturing single-walled carbon nanotubes comprising the steps of:

reducing the pressure inside a system to 1.3 Pa or lower;

supplying a carboniferous liquid state material to raise the pressure inside the system to a range of 39.9 kPa to 79.8 kPa;

generating arc discharges;

supplying the carboniferous liquid state material in discharge plasma created by the arc discharges; and

disintegrating or exciting the carboniferous liquid state material to produce the single-walled carbon nanotubes.